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#### (54) AIR NOZZLE CLOSURE FOR A SPRAY GUN

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#### (56) References Cited

#### U.S. PATENT DOCUMENTS

40,433 A	10/1863	Sees	
327,260 A	9/1885	Hart	
459,432 A	9/1891	Anderson	
459,433 A	9/1891	Avery	
548,816 A	10/1895	Paul	
	(Continued)		

#### FOREIGN PATENT DOCUMENTS

6/1007

7.1	133003	0/1997	
Т	163577	3/1998	
	(Co	ntinued)	
	OTHER PU	JBLICATIONS	

152992

International Search Report (dated Jun. 20, 2008), Written Opinion (dated Jun. 20, 2008), and International Preliminary Report on Patentability (dated Sep. 14, 2010) from PCT/US2008/03318 filed Mar. 12, 2008.

#### (Continued)

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## (57) ABSTRACT

An air nozzle closure for a spray gun with an air cap, which has at least one axial borehole for the passage of exiting air and a first annular flange, which is radially directed outward, and an air nozzle ring surrounding the air cap, with a second annular flange radially directed inward, and an inside thread for the screwing on of the air nozzle closure with an outside thread of the spray gun. The air cap in the screwed state, with annular flanges adjacent to one another, is clamped in between the spray gun and the air nozzle ring, and a first annular groove with a locking ring, which secures the air nozzle ring in the unscrewed state against the loosening of the air cap. The locking ring has at least one elastic snap-in element projecting inward to snap into the annular groove.

## 11 Claims, 3 Drawing Sheets

